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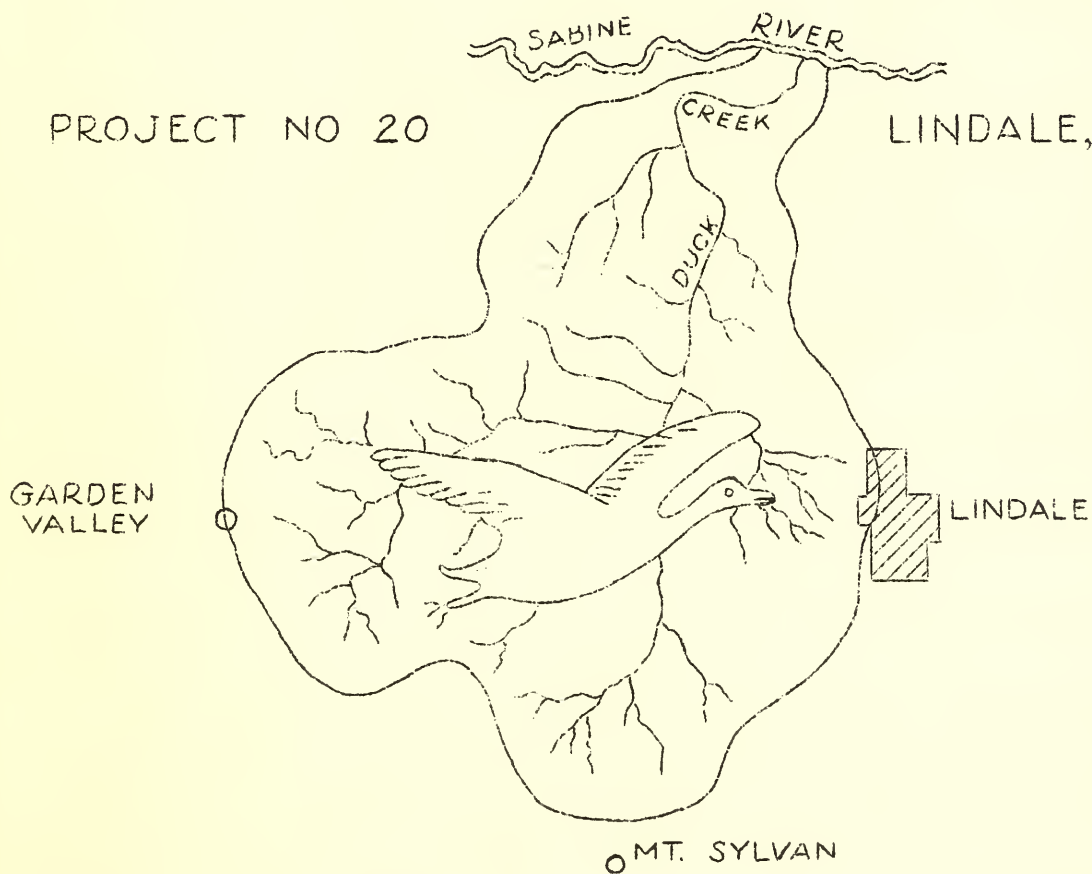
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DUCK CREEK NEWS

UNITED STATES
DEPARTMENT OF AGRICULTURE
SOIL EROSION SERVICE

PROJECT NO 20

LINDALE, TEXAS



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PRIDE IN THE LAND

People who visited the Duck Creek area last fall and who have been back this spring, have repeatedly spoken of the great improvement in appearance of the farms. You may have been too busy to notice it, but there has been a wonderful change. The strip crops, contour furrows in pastures, terraces, gully control work and other phases of the erosion control program have done their part in making the change, but there are other things which helped make many farms look like entirely different places.

Fences have been repaired and new ones built, old fence rows have been cleaned off, weeds have been cut, brush cut and removed from pastures, buildings have been repaired,--in short, there is plenty of evidence that more pride is being taken in the farms.

A well kept farm is a thing beautiful to look upon. At the same time, it almost invariably pays a better return on labor and investment than does a slovenly kept farm. A well kept farm advertises itself as being a good investment for anyone who wishes to buy land. It is a year-round testimonial of the fact that the man who farms it is a progressive, forward-thinking man, who is not only a hard worker but a good manager.

Farms of the Duck Creek area are being studied every day, not only by neighbors, but by people from surrounding and distant counties, states and even nations. We are genuinely and justifiably proud of the pride which our cooperators are taking in their farms.

NEW CROPS AND OLD

Lespedeza sericea, a comparatively new legume in this section, has been planted on a number of farms. It is being used in locations where permanent strips are needed, and for this purpose is being planted in close rows. Enough light cultivation to keep down the weeds and give the sericea a start will be necessary during the first year. Anyone interested in seeing this crop growing may do so at the Leonard Stell farm, near Swan.

Planting of *crotalaria spectabilis* has been started on sandy land strips. This is a new crop to most people of this section, and will be watched with interest. It is a soil building, soil holding legume.

Common *lespedeza* which was planted in grain strips on cooperating farms is coming up to a good stand. The strips were top dressed with sulphate of ammonia at the rate of 100 pounds per acre, the *lespedeza* broadcast and both seed and fertilizer harrowed in. Every one is commenting on the noticeable difference in the grain strips caused by the top dressing.

KNOW YOUR COOPERATIVE AGREEMENT

Every cooperator should study the cropping plan in his agreement and make sure to plant his crop exactly according to this plan. Contact men have started checking fields and will expect strict compliance. If you are not positive you understand the cropping plan on your farm, get in touch with your contact man before you plant.

BLACK LOCUSTS

The black locust seedlings which were set during February and early March are making splendid growth, despite the dry weather and the crusting of the soil. A very small number, probably not over three or four per cent have died. It is very noticeable that where a section harrow was run over the ground to break the crust the trees have made more growth and have better color.

We venture the prophecy that in the future a great many more steep or badly eroded areas will be set to black locust from which the farmer will harvest crops of fence posts, or possibly in some cases, fuel. It will be a source of great satisfaction to a man to know that he can set a line of fence posts with the assurance they will last a life time instead of having to be replaced every few years. And, at the same time he grows fence posts, his soil will be held and improved.

Let's give the black locusts the cultivation and protection from grazing and burning which will hasten the maturity of this valuable crop.

NEW PASTURE PLANTS GROWING

If cooperators have examined their pastures recently, they have found evidence that they have at least a good start of several valuable pasture plants. The late freezes killed the first crop of seedlings, and the dry weather has been hard on the later ones, but you will still find enough small thrifty bur clover, hop clover and Dallis grass plants to insure reseeding and spreading if they are not overgrazed. Lespedeza seedlings more recently made are coming up to a fine stand. Given proper attention and protection and with a normal rainfall this season, the improved pasture should have at least fifty per cent greater value next year.

WEEDS

According to an old definition, a weed is "a plant out of place." If this is true, there is, or should be no room for weeds on your farm. Can you think of a single instance or place where weeds "got a job done" as well or better than some worthwhile crop? Livestock will not eat weeds in most instances unless forced to do so, and then you are very likely to get some undesirable result, as for example, the bitterweed flavor in milk. Weeds, having more vigorous growth than most pasture plants, will crowd out valuable grazing plants, the cheapest feed for your livestock.

Many weeds carry or harbor insects and diseases which attack and damage cultivated crops. As a means of checking erosion they may be better than nothing on the ground, but you'll find that on the already eroded spots which need protection badly, there weeds are not. In any event, the weeds will not protect the soil as well as some crop which at the same time may be building up the soil. One years crop of weeds gone to seed is enough to provide you entertainment for several years, for with many weeds the seeds do not germinate uniformly, but some of them may lie in the ground several years before sprouting. A crop of weeds turned under will add some organic matter to the soil, but there are other crops which will add much more fertility with none of the disadvantages of the weeds.

Most weeds will be killed by mowing them twice a year for two years. Time spent in mowing weeds so as to give worthwhile crops the moisture, fertility and sunlight which the weeds had been taking, is some of the best spent time on the farm.

CAUSES AND PREVENTION OF GULLIES

Have you ever taken time to walk over your farm, noting the gullies that mar its surface, and tried to remember how and when each gully started? If you haven't done so, we suggest that you do, for the observations made and points remembered may save you worry, work and dollars in the future.

A few of the gullies may be old, that is, they may have started twenty-five, thirty or more years ago, but many of them will be young enough for you to remember if you have been on the land very many years.

Following are listed some of the things which often result in the formation of land destroying gullies:

Terrace breaks. A terrace is a dangerous thing unless it is properly laid out, built and maintained. Rain water falling on an unterraced cultivated slope has a chance to run off in a sheet, or in many small streams. When concentrated behind a terrace ridge, it becomes a cutting, soil carrying torrent if that terrace breaks. Often the flood of water released from a break in an upper terrace will break all the terraces below and a gully the full length of the slope results.

To prevent gullies from this cause, be sure that your terrace lines are run properly, with not too much fall so as to cause the channel to sweep out. Build the terraces high enough and wide enough to withstand the heaviest rains, not merely average showers. Maintain your terraces, keeping them plowed up to uniform height and width. Don't terrace slopes over seven or eight per cent in East Texas, for terracing loses effectiveness on slopes greater than those. Use strips of close growing crops, such as small grains in winter and peas and sorghum in summer to strengthen the terraces and reduce soil losses. Be sure that the fills across washes and gullies are at least a third higher and wider than the rest of the ridge, for these fills are otherwise always weak places. Check your terraces after every rain to find weak places, gopher runs, etc., and promptly repair or build up such weak spots. Remember that a shovel full of maintenance work saves nine of repairing the damage after a break occurs.

Unprotected terrace outlets. Getting water down from terraced slopes has always been a problem. In far too many cases the terraces were emptied over a bank into a road ditch, into an unprotected ditch or gully which was already present, or onto an abandoned, eroded field. When emptied over the bank into a road ditch, the almost inevitable result is a gully running back into the field along the terrace channel. Concentration of water into an unprotected ditch or gully almost always cuts such an outlet wider, deeper and longer, and creates a new and serious problem. Pouring additional water on an already badly damaged unprotected field is just another way of completely ruining it, because the vegetative growth on such areas is inadequate to hold the soil.

Wherever possible, terraces should be emptied on well established sod, such as good Bermuda pasture. The soil will be protected and held by the grass, and the grass will be improved by the additional water. In some cases, outlet water may be turned on woodland which is not burned over or grazed, but has its natural floor covering of leaves and decaying vegetable matter, and its natural thick growth of bushes and young trees. If emptied

into a ditch or old gully, that drainage way must be protected by sod and vegetative growth backed up by temporary structures such as wire dams, or by permanent dams to stabilize the drain and prevent its further growth and damage. In many cases it will be necessary to establish a new outlet channel, which may be cut in its proper location by use of graders or turning plows and slips, then sprigged or stripped with Bermuda to establish a protected floor. Such channels may be most easily and economically established by locating, cutting and sprigging them with sod a year before terraces are emptied into them, so as to allow them to become stabilized. In cases of large drainage areas or steep slopes, it will be necessary to further protect the channel with permanent structures to prevent cutting. Where no other outlet is available and emptying the water into a road ditch is unavoidable, the outlet should be made as nearly on a level as possible and protected by sodding or structure.

A little extra time spent in planning and protecting terrace outlets will save worlds of trouble and expense later on.

(This discussion of causes and prevention of gullies will be continued in future issues of the NEWS)

MAINTENANCE OF STRUCTURES

Since the hardest rains are to be expected at this time of the year, it is especially important that all check dams, terrace outlets, and channels be inspected after each rain to determine whether any damage has been done. If any damage is found, it should be repaired immediately so that all work will be in good shape for the next rain. If you are in doubt as to the best method of making repairs, please notify the Soil Erosion office and an engineer will come out to assist you.

SOIL PROFILES

Fourteen profiles of the important soil types of the Duck Creek watershed have been taken under virgin and eroded conditions. The soil series represented are the Kirvin, Macogdoches, Norfolk, Bowie, Ruston, and Susquehanna. Eroded samples of Kirvin fine sandy loam and Macogdoches fine sandy loam were taken to show the severity of sheet erosion on both types. These profiles make it possible for an individual to study a three foot section of various soil types in virgin uneroded, and eroded conditions. The profiles bring out the differences in the soil types, and a close study points out the reasons why one soil type erodes differently from another.

In securing the profiles a hole was dug four feet deep, five feet long, and three feet wide, and a section of one side wall was cut out and shaped, and a wooden box fitted to the profile. A digging bar was used to cut the profile, in the box, away from the bank without disturbing the structure and horizons.

The box was then placed on a flat surface and the profile trimmed so that a glass could be fitted to the box and hold the profile in place. The profile was then labeled and placed on a wooden rack built for the purpose.

In comparing the profiles of a virgin Kirvin fine sandy loam with a severely eroded profile of the same type, we readily see why crop yields are reduced so rapidly with the increase in erosion.

Virgin Kirvin fine sandy loam has a topsoil of 10-12 inches deep, and of a reddish brown color with an inch or less of organic layer on the surface. This topsoil or "A" horizon passes rather abruptly into a dull red, heavy impervious clay which absorbs water very slowly. This is underlain by a mottled red, yellow and gray, or red and gray plastic clay at a depth ranging from 30-40 inches.

The surface twelve inches of the uneroded soil with its organic matter content will hold moisture in contact with the clay longer and thus increase the amount of moisture in the soil.

On the severely eroded profile, the surface layer is only a few inches thick and the organic matter has been decomposed and leached out so that the fertility and water holding capacity of the soil are gone. Subsoil farming has long been recognized as unprofitable, so with only two or three inches or less of topsoil left we are subsoil farmers.

Since it is the topsoil that contains all the available plant food, those who study the profiles can readily see the necessity for following a good sound program of erosion control to save the soil.

Save the surface soil and you save all!

ACTIVITIES OF CAMP SES-T-3 FOR THE MONTH OF MARCH

The C. C. C. camp at Lindale, Texas was very active during the month of March, having worked on 37 farms in the Duck Creek area. These farms contained a total of 6,662 acres of land. The following work was completed.

1. 127.8 cubic yards of rock masonry.
2. 149 wire dams averaging 13.6 feet in length.
3. 23 rock-sod dams averaging 10.5 feet in length.
4. 1407 sod-bag dams averaging 6 feet in length.
5. 2 cement-gravel bag dams averaging 10.5 feet in length.
6. 5 miles of gullies and terrace outlet channels were protected with a vegetative covering.
7. 23 acres of gully banks were cleared of brush and sloped
8. 17 acres of land were planted with pine, black locust, and Kudzu.
9. All work previously done was maintained in excellent condition.

This work was done in 22 calendar days with an average of 191 camp boys working a minimum of 6 hours per day. The average company strength during the month of March was 231. Twenty-eight of these boys were kept in camp each day for camp duty such as preparing meals, washing dishes, office work, medical duties, educational and recreational activities, camp policing, getting wood, etc. An average of twelve boys were sick or for other reason absent each day during the month.

These boys are to be complimented for the interest they have taken in their work, the spirit in which they have gone about their work, and the excellent standard of morals they have maintained in the camp and community.

--J. H. Cheek, Camp Superintendent.

VISITORS

A. B. Emmons, Vocational Agriculture Teacher, Marshall, Texas.
C. M. Evans, Regional Advisor, Rural Rehabilitation, Southwest States, Marshall, Tex.
E. D. Bolton, Vocational Agriculture Teacher, Lindale, Texas, and

54 students.

County Agent C. J. Munch, Terrell, Texas, accompanied by Irwin Fleetwood,
W. P. Allen, and Fred Messengale.

S. A. Debnam, County Agent, Midland and Martin Counties, Texas.

H. B. Little, Cotton Adjustment Assistant, Midland, Texas.

J. M. Cooper, Vocational Agriculture Teacher, Valley View, Texas.

N. P. Stephenson, Vocational Agriculture Teacher, Lancaster, Texas.

E. E. McAlister, Vocational Agriculture Teacher, Boyd, Texas.

R. M. Mitchell, Vocational Agriculture Teacher, Emory, Texas.

T. O. Pridgeon, Vocational Agriculture Teacher, Riesel, Texas.

C. B. Senter, Vocational Agriculture Teacher, Van, Texas.

W. S. Cunningham, Vocational Agriculture Teacher, Whitewright, Texas.

B. F. Vance, County Agent, Graham, Texas.

M. F. Thurmond, Agr. Engr. Dept., A & M College, College Station, Texas.

Miss Mary Jo Cowling, Mrs. Pearl C. McCracken and Mr. Jesse Legett,

North Texas State Teachers College, and 34 students.

H. F. Morris, Nacogdoches, Texas, and group of 38 farmers and business men.

W. O. Cox, Assistant Manager, Tyler Chamber of Commerce.

Oran Dawson, Teacher of Vocational Agriculture, Latexo, Houston County, Texas.

D. C. Larner, Teacher Vocational Agriculture, Georgetown, Texas.

M. H. Edmondson, Greenville, Texas.

J. F. Liston, Wills Point, Texas.

Walter Baxter, Floydada, Texas.

Tom Reitch, Terrell, Texas.

Mack McConnell, County Agent, Palestine, Texas.

County Agent G. M. Morris, Marshall, Texas.

W. G. Ralph, County Agent, Daingerfield, Texas.

Mr. & Mrs. Ben Kay, Pine Springs, Texas.

E. R. Eudaly, Extension Service, A & M College, College Station, Texas.

R. H. Bush, Extension Service, A & M College, College Station, Texas.

W. H. Dupuy, County Agent, LaGrange, Texas.

Dan Foster, U. S. Biological Survey, Rodent Control, Nacogdoches, Texas.

E. H. Varnell, Teacher of Vocational Agriculture, North Texas Agricultural
College, Arlington, Texas.

W. M. Pinson, John Hancock Life Insurance Company, Land Department, Dallas, Texas.

Raymond J. Butler, colored County Agent, Smith County, and 18 farmers.

R. F. Mitchell, Teacher of Vocational Agriculture, Emory, Texas, and
46 students and farmers.

Clarence DeBusk, Marshall Chamber of Commerce, Jacksonville, Texas and

G. L. Clyburn, County Agent, Cherokee County, and 21 farmers
and business men.

Donald Ralph, County Agent of Titus County and Delbert Snyder, Secretary
Chamber of Commerce, and 38 farmers.

Dr. L. G. Jones, Professor of Soils, A & M College, and 9 students.

C. T. Sims, Teacher of Vocational Agriculture, Winnsboro, Texas and 16 farmers.

M. F. Thurmond, Agri. Eng. Dept., A & M College, and 21 students.

Elbert Gentry, County Agent, Tyler, Texas.

V. F. Fitzhugh, Teacher of Vocational Agriculture, Tyler, Texas.

J. M. Hancock, Teacher of Vocational Agriculture, Whitehouse, Texas.

L. W. Swift, U. S. Forest Service, San Francisco, California.

Prof. J. J. Richey, Chairman C. E. Dept. A & M College of Texas, and
7 senior C. E. students.

D. T. Simons, Sec'y Texas Jersey Cattle Club, Fort Worth, Texas.

Thirty-five members Kiwanis Club, Tyler, Texas.